

## **In the Claims**

1. (ORIGINAL) A method of monitoring a communication network to identify polarization-mode dispersion, the method comprising:

identifying an error on a first channel of a plurality of channels in the communication network;

identifying a second channel of the plurality of channels that is adjacent to the first channel;

determining if an error occurs on the second channel that is adjacent to the first channel;

identifying a third channel of the plurality of channels;

determining if an error occurs on the third channel; and

identifying the polarization-mode dispersion based on determining the error occurs on the second channel that is adjacent to the first channel and determining the error does not occur on the third channel.

2. (ORIGINAL) The method of claim 1 wherein identifying a second channel of the plurality of channels that is adjacent to the first channel comprises:

identifying the second channel that is adjacent to the first channel on each optical link from an egress point for the first channel to an ingress point for the first channel.

3. (ORIGINAL) The method of claim 2 wherein identifying a third channel of the plurality of channels comprises:

identifying the third channel on each optical link from the egress point for the first channel to the ingress point for the first channel.

4. (ORIGINAL) The method of claim 1 wherein:

identifying an error on a first channel comprises determining the error on the first channel at an egress point for the first channel;

determining if an error occurs on the second channel comprises determining if the error occurs on the second channel at an egress point for the second channel; and

determining if an error occurs on the third channel comprises determining if the error occurs on the third channel at an egress point for the third channel.

5. (ORIGINAL) The method of claim 1 wherein the second channel that is adjacent to the first channel comprises an adjacent channel having a wavelength shorter than a wavelength for the first channel.

6. (ORIGINAL) The method of claim 1 wherein the second channel that is adjacent to the first channel comprises an adjacent channel having a wavelength longer than a wavelength for the first channel.

7. (ORIGINAL) The method of claim 4 wherein the egress points comprise optical-to-electrical systems.

8. (ORIGINAL) The method of claim 1 wherein identifying an error on a first channel comprises:

identifying a parity check error on the first channel.

9. (ORIGINAL) The method of claim 1 wherein identifying an error on a first channel comprises:

identifying if an error count for the first channel exceeds a threshold.

10. (ORIGINAL) The method of claim 1 wherein the plurality of channels have a bit rate of at least 2.5 Gigabits per second.

11. (ORIGINAL) A monitoring system configured to monitor a communication network for polarization-mode dispersion, the monitoring system comprising:

a database system configured to store identities for a plurality of channels in the communication network; and

a processing system configured to:

identify an error on a first channel of the plurality of channels;

identify a second channel of the plurality of channels that is adjacent to the first channel based on the database system,

determine if an error occurs on the second channel that is adjacent to the first channel,

identify a third channel of the plurality of channels based on the database system,

determine if an error occurs on the third channel, and

identify the polarization-mode dispersion based on determining the error occurs on the second channel that is adjacent to the first channel and determining the error does not occur on the third channel.

12. (ORIGINAL) The monitoring system of claim 11 wherein the processing system is configured to:

identify the second channel that is adjacent to the first channel on each optical link from an egress point for the first channel to an ingress point for the first channel.

13. (ORIGINAL) The monitoring system of claim 12 wherein the processing system is configured to:

identify the third channel on each optical link from the egress point for the first channel to the ingress point for the first channel.

14. (ORIGINAL) The monitoring system of claim 11 wherein the processing system is configured to:

identify the error on the first channel at an egress point for the first channel,

determine if the error occurs on the second channel at an egress point for the second channel, and

determine if the error occurs on the third channel at an egress point for the third channel.

15. (ORIGINAL) The monitoring system of claim 11 wherein the second channel comprises an adjacent channel having a wavelength shorter than a wavelength for the first channel.

16. (ORIGINAL) The monitoring system of claim 11 wherein the third channel comprises an adjacent channel having a wavelength longer than a wavelength for the first channel.

17. (ORIGINAL) The monitoring system of claim 14 wherein the egress points comprise optical-to-electrical systems.

18. (ORIGINAL) The monitoring system of claim 11 wherein processing system is configured to:

identify a parity check error on the first channel.

19. (ORIGINAL) The monitoring system of claim 11 wherein processing system is configured to:

identify if an error count for the first channel exceeds a threshold.

20. (ORIGINAL) The monitoring system of claim 11 wherein the plurality of channels have a bit rate of at least 2.5 Gigabits per second.